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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/009,108	04/22/2002	Mitsuaki Oyamada	9792486-0112	5522

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David R Metzger
Sonnenschein Nath & Rosenthal
Wacker Drive Station
PO Box 061080
Chicago, IL 60606-1080

EXAMINER

ANGEBRANNDT, MARTIN J

ART UNIT	PAPER NUMBER
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1756

DATE MAILED: 08/21/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/009,108

Applicant(s)

OYAMADA ET AL.

Examiner

Martin J Angebrannt

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12/3/02 & 4/22/02.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2. 6) ☐ Other: _____

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1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1 and 2 are rejected under 35 U.S.C. 102(b) as being fully anticipated by Fukui et al. '873.

Fukui et al. '873 describes example 4 in table 2, which has the same substrate, recording layer and protective layer as used in example 1 and uses IR absorptive compound 1-18 shown in column 6. The recording layer can have a reflective layer adjacent to it on either side. (19/1-3)

4. Claims 1 and 2 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sato et al. '121.

Sato et al. '121 discloses in example 1, the coating of a recording layer including compound 11 (shown in columns 5 and 6), but does not use a protective layer. The provision of a protective layer is disclosed as preventing damage, contamination (dirt and dust) and improving the chemical stability of the recording layer (19/53-59).

It would have been obvious to one skilled in the art to modify the invention of example 1 of Sato et al. '121 by adding a protective layer to prevent damage to the recording layer from dust and the like and to improve its stability based upon the disclosure of the reference.

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5. Claims 1 and 3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sato et al. JP 03-000291.

Sato et al. JP 03-000291 discloses in examples 1-15, the coating of a recording layer including compound shown in table 2 (page 4), but does not use a protective layer. The provision of a protective layer is disclosed in the abstract as well as the body of the text.

It would have been obvious to one skilled in the art to modify the invention of any of examples 1-15 of Sato et al. JP 03-000291 by adding a protective layer to prevent mechanical damage to the recording layer.

6. Claims 1 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over **either** Kobayashi et al. JP 10-337957 (machine translation attached) **or** Morishima et al. '024, in view of Morimoto et al. '345 and Sato et al. '121.

Kobayashi et al. JP 10-337957 (machine translation attached) teach the use of compounds embraced by the language of formula II, where the substituents may be aryl groups [0014]. The reflective and protective layers are placed atop the recording layer.

Morishima et al. '024 teach the use of compounds embraced by the language of formula I-5, where the substituents may be aryl groups (10/20-39). The reflective and protective layers are placed atop the recording layer. (34/64-67)

Morimoto et al. '345 teaches that the reflective layer may be placed atop the recording layer when the medium is to be read through the substrate and between the recording layer and the substrate when the medium is designed to be read from the side opposite the substrate. (6/42-65).

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It would have been obvious to modify the teachings of **either** Kobayashi et al. JP 10-337957 (machine translation attached) **or** Morishima et al. '024 by using the disclosed compound bearing the aryl moieties based upon the disclosure of equivalence and to place the reflective layer between the recording layer and the substrate to allow for reading and writing from the topside, opposite the substrate based upon the disclosure of Morimoto et al. '345 and the teachings of equivalence of the orientations within Sato et al. '121.

7. Claims 1 and 3 are rejected under 35 U.S.C. 102(b) as being fully anticipated by JP 07-133437.

JP 07-133437 (machine translation attached) describes example 11 in tables 6 and 7, which has the same substrate, recording layer and protective layer as used in section [0176] and uses IR absorptive compound 1-19 [0053], which is composed of compound 9' shown in section [0028]. The recording layer can have a reflective layer as and undercoating [0137].

8. Claims 1,4 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cumpston et al. '931.

Cumpston et al. '931 teaches the addition of saturable absorbers to photopolymer systems, which are cured with holograms therein. Laser light is then used to selectively heat areas containing the saturable absorbers and deform the cured media (11/42-62). Saturable absorbers disclosed include fullerenes. (11/23). Figures 5c and 5d show cover layers (136) (16/34) Figures 3 and 6 also appear to have cover layers.

It would have been obvious to one skilled in the art to modify the invention of figures 5c and 5d to use fullerenes as the saturable absorbers based upon the disclosure to do so.

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9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

JP 59-016785 teaches compounds similar to those recited in claim 6, but does not disclose aryl substituents.

Inagaki et al. '186 teach compounds embraced by the language of claim 3, when aryl substituents are present. (25/35-51). *The applicant should identify the structures of IRG-002, IRG-003, IRG-0023 and IRG-022 for the record.*

Santoh et al. '979 teach compounds embraced by the language of claim 2. (11/1-24).

JP 11-283276 (machine translation attached) teaches the use of fullerenes in optical recording media.

Gimzewski et al. '744 teach optical recording media which incorporate fullerenes.

Skoog and West, "Principles of Instrumental Analysis", (1980) pp. 174 and 175, teach that aromatic molecules, absorb strongly in the E_2 transition in the 204-286 nm region and due to the B band in the region of 256-312 nm. As the compounds claimed in claims 2,3 and 6 are aromatic compounds they would be expected to undergo these same electron transitions giving rise to absorptions in the 200-300 nm spectral region. Fullerenes are black body absorbers and like carbon black, or graphite absorb through the spectrum

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Martin J Angebranndt whose telephone number is 703-308-4397. The examiner can normally be reached on Mondays-Thursday and alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Huff can be reached on 703-308-2464. The fax phone numbers for the

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organization where this application or proceeding is assigned are 703-872-9310 for regular communications and 703-872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.



Martin J Angebranndt
Primary Examiner
Art Unit 1756

August 11, 2003